English

Operating instructions

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

As you read through this manual, buttons and settings on the camera are shown in capital letters. e.g., Press FLASH.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.





This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

| Model No. | MVC-FD91 | |
|------------|----------|--|
| Serial No. | | |

2-GB

CAUTION

Never expose the battery pack to temperatures above 140°F (60°C), such as in a car parked in the sun or under direct sunlight.

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For the Customers in the United States and CANADA DISPOSAL OF LITHIUM ION BATTERY.

LITHIUM ION BATTERY.
DISPOSE OF PROPERLY.

You can return you unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.

Note: In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you call

1-800-222-SONY (United States only)

For the Factory Service Center nearest you call

416-499-SONY (Canada only)

Caution: Do not handle damaged or leaking lithium ion batteries.

NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362, (i.e., marked with * or * mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

ATTENTION

The electromagnetic fields at the specific frequencies may influence the picture and sound of this camera.

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4-GB

Be sure to read before using your camera

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

Contents of the recording cannot be compensated for if recording or playback cannot be made due to a malfunction of the camera, floppy disk, etc.

Precaution on copyright

Floppy disks, television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provisions of the copyright laws.

- IBM PC/AT is a registered trademark of International Business Machines Corporation of the U.S.A.
- MS-DOS and Windows are registered trademarks licensed to Microsoft Corporation, registered in the U.S.A. and other countries.
- Netscape Navigator is a trademark of Netscape Communications Corporation.
- Macintosh is a trademark licensed to Apple Computer, Inc., registered in the U.S.A. and other countries.
- All other product names mentioned herein may be the trademarks or registered trademarks of their respective companies.
 Furthermore, "TM" and "®" are not mentioned in each case in this manual.

Before using your camera

This digital still camera uses a floppy disk as a medium for recording images.

Use the following floppy disk type:

Size: 3.5 inchType: 2HDCapacity: 1.44 MB

• Format: MS-DOS format (512 bytes × 18 sectors)

When using 3.5 inch, 2HD floppy disk other than described above, format it using the camera or personal computer.

Do not shake or strike the unit

Malfunctions, inability to record images as well as inability to use floppy disks or image and memory data breakdown, damage or loss may occur.

Do not get the unit wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the unit wet. If moisture condensation occurs, refer to page 41 and follow instructions on how to remove it before using.

Do not point the viewfinder toward the sun

Do not place the unit so as to point the viewfinder or the LCD screen toward the sun. The inside of the viewfinder or the LCD screen may be damaged. Be careful when placing the unit under sunlight or by a window.

Back up recommendations

To avoid the potential risk of data loss always copy (back up) data to disk.

Supplied accessories

Digital still camera (1)

Power cord (1 set)

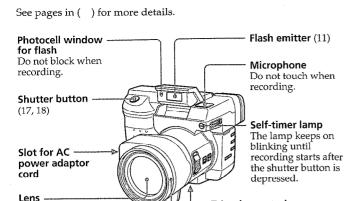
NP-F330 battery pack (1)

Character (1)

Large eq. (1)

Shoulder strap (1) Lens cap (1)

Parts identification

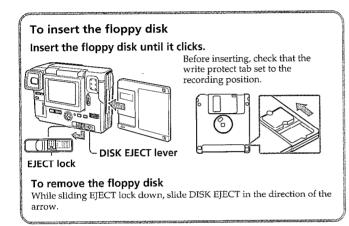


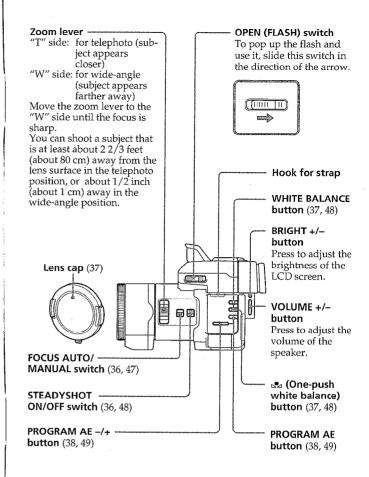
Tripod receptacle

7/32 inch (6.5 mm).

Make sure that the length of

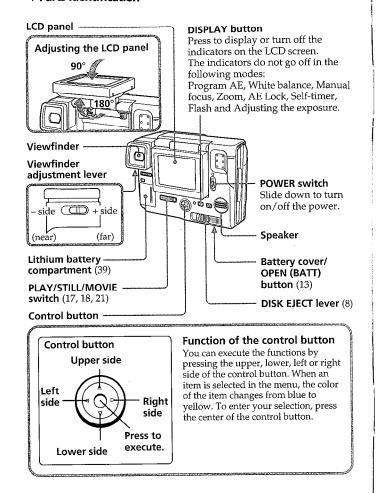
the tripod screw is less than





8-GB

Focus ring (36)



POWER lamp (17, 21) -Hook for strap Attaching the shoulder ACCESS lamp (17, 21) strap LCD screen -FINDER/LCD switch -Slide to change the viewfinder or LCD screen. SPOT METER button (47) Floppy disk Press to change the slot Complete photometry FLASH/ , C) 🗁 🕽 or Spot light-metering CHARGE mođe. lamp Self-timer -FLASH button Select "" with the control button, Auto-flash is set at the factory. then press it. Each time you press the button, About 10 seconds after you press the flash mode changes as the shutter button, the subject is recorded. Auto-flash (no indication) → Forced-flash 💈 → **Exposure** No flash **⑤** → Auto-flash Select "+EV" or "-EV" on the In Auto-flash mode, the flash radiates automatically according LCD screen with the control button, to the brightness of the surthen press it to select the desired roundings. The subject must be 1 5/8 feet to 8 1/3 feet (0.5 m to value. 5/8 feet to 81/3 feet (0.5 m to 2.5 m) away. The flash will work at 1/60 to 1/1500 shutter speed. When you record using the flash and conversion lens (not supplied), an eclipse (shadow) may occur. To use the flash or change the flash mode, slide OPEN (FLASH) to lift the flash up (9). +EV: To raise the exposure value (brighten the picture) -EV: To lower the exposure value (darken the picture) Adjustable in a range of -1.5 EV to +1.5 EV in steps of 0.5 EV. up. (9)

10-GB

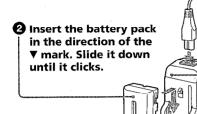
Preparation

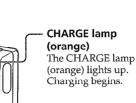


Charging the battery pack

To charge the battery pack, use the battery charger. For details, refer to the instruction manual of the battery charger.

1 Connect the power cord to a wall outlet.





Battery charger

To remove the battery pack

Slide up the battery pack.

Charging time

| arge ³ |
|-------------------|
| |
| |
| |
| |

Approximate minutes to charge a discharged battery pack using the battery charger BC-V615. (Lower temperatures require a longer charging time.)

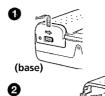
 $^{\ast}\,$ Charging for about one hour after the CHARGE lamp goes out.

** Charging just until the CHARGE lamp goes out.

12-GB

2

Installing the battery pack



Open the battery cover.While sliding OPEN (BATT) in the direction of the arrow.



Install the battery pack. Insert the battery pack with the ▼ mark facing toward the battery compartment.



Close the cover.

Press the cover until it clicks.

To remove the battery pack

Open the battery cover. While sliding the battery release lever rightward, remove the battery pack.

Be careful not to drop the battery pack when removing.



Battery release lever

Remaining battery time indication

This camera shows on the LCD panel how many minutes you can still keep on recording or playing back images*. Note, however, that the time might not be displayed correctly under some use conditions or in some environments.

* The time displayed during recording or during playback refers to the time for which the battery lasts if you simply keep the camera on or if you simply keep it displaying images without performing any operation.

Auto power-off function

During recording if you leave the camera inactive for about 3 minutes while the power is on, the camera turns off automatically to prevent wearing down the battery.

About the power source

This camera can be powered from the following two power sources:

- InfoLITHIUM battery* NP-F330 (supplied)/F530 (not supplied)/ F550 (not supplied)
- AC power adapter AC-V700 (not supplied)

When you use the camera for a long time, we recommend you to power the camera from a wall outlet with the AC power adaptor.

* "InfoLITHIUM" battery pack

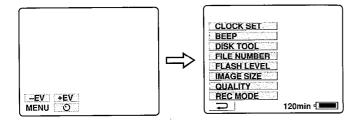
The "InfoLITHIUM" is a lithium ion battery pack which can exchange data with compatible equipment about its battery consumption. "InfoLITHIUM" is a trademark of Sony Corporation.

8

Setting the date and time

When you use the camera first, set the date and time. The date and time are necessary for MS-DOS format recording. If they are not set, incorrect date and time are recorded, and CLOCK SET screen in step 3 appears whenever you turn on the camera in STILL/MOVIE mode.

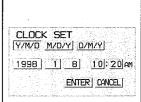
- 1 Slide POWER down to turn on the power.
- 2 Select "CLOCK SET" in MENU with the control button, then press it.



14-GB

3 Select the desired display of the date with the control button, then press it.

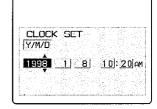
Y/M/D (year/month/day) M/D/Y (month/day/year) D/M/Y (day/month/year)



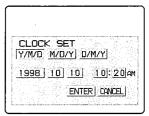
Select the date and time with the control button, then press it.

The item to be changed is indicated with $\blacktriangle/\blacktriangledown$. Select number by pressing the upper side or lower side of the control button, then press it to enter the number.

After entering the number, ▲/▼ moves to the next item. When "D/M/Y" is selected, set the time on a 24-hour cycle.



5 Select "ENTER" with the control button, then press it at the desired moment to begin clock movement.



⇒ Preparation

To cancel setting the date and time
Select "CANCEL" with the control button, then press it.

Note

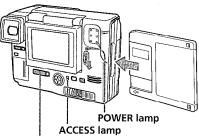
If the "\$" indicator appears on the LCD screen, replace the lithium battery according to the procedures on page 39.

Recording and playing back images



Recording still images

To record the images, slide POWER down to turn on the power (The POWER lamp lights up) and insert the floppy disk until it clicks.

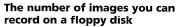


- 1 Set PLAY/STILL/MOVIE to STILL.
- Press the shutter button halfway down.

The AE lock indicator \bigcirc (green) flashes. When AE (auto exposure), AWB (auto white balance) and AF (auto focus) are frozen, the AE lock indicator stops flashing.

Press the shutter button fully down.

The image is recorded on the disk.



About 10 - 16 images with all default settings. (p. 29)



When the image is recorded on the disk, the ACCESS lamp flashes. When the ACCESS lamp is flashing, never shake or strike the unit. Also, do not turn the power off or remove the battery pack or floppy disk. Otherwise, an image data breakdown may occur and the floppy disk may become unusable.



Recording moving images

1 Set PLAY/STILL/MOVIE to MOVIE.

2 Press the shutter button fully down momentarily.

The image and sound are recorded for 5 seconds.

Hold the shutter button fully down.

The image and sound are recorded until you release it.

Maximum 60 seconds when recording 160 × 112 size □160

15 seconds when recording 320 × 240 size □320

Moving images will be softer than still images.

Recording with LCD panel up - Mirror mode

If you turn the LCD panel over so that it faces the other way, you can record yourself while watching yourself on the LCD screen.



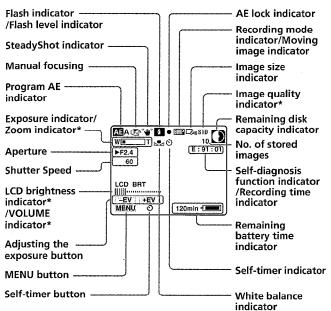
When recording in mirror mode, the picture on the LCD screen rotates right or left as if in a mirror, but the recorded image will be the same as the actual subject.

Note

The characters on the LCD screen also rotate right or left.

The indicators during recording

The indicators on the LCD screen are not recorded.



* Only displayed during operation.

Spot light-metering (p. 47)

Spot light-litetering (p. 47)

Focusing manually (p. 36, 47)

Releasing the SteadyShot function (p. 36, 48)

Adjusting the white balance (p. 37, 48)

PROGRAM AE function (p. 38, 49, 50)

Selecting the recording mode – REC MODE (p. 28)*

Selecting the image quality – QUALITY (p. 30)*

Selecting the flash level – FLASH LEVEL (p. 30)*

Selecting the file numbering mode – FILE NUMBER (p. 31)

Selecting the image size

- IMAGE SIZE (p. 30, 31)

* You cannot use these functions for MOVIE mode.



Playing back still images

To watch the recorded images on the LCD screen, slide POWER down to turn on the power (The POWER lamp lights up) and insert the floppy disk until clicks.

The ACCESS lamp flashes and the last recorded image appears on the LCD screen.

POWER lamp
ACCESS lamp

2 Select the recorded image with the control button.

Select the button on the LCD screen with the control button, then press it.

: To display the preceding recorded image.

► To display the next image.

INDEX: To display 6 recorded images at a time (Index screen).



Playing back moving images

• Set PLAY/STILL/MOVIE to PLAY.

The ACCESS lamp flashes and the last recorded image appears on the LCD screen. $\label{eq:LCD}$

The image recorded in MOVIE mode is displayed one-size smaller than the other normal-sized images.

2 Select the playback start button on the LCD screen with the control button, then press it.

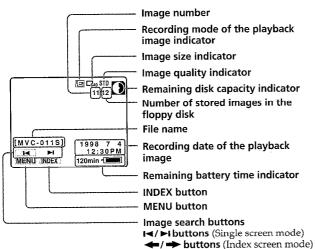
The moving image and sound start.

.

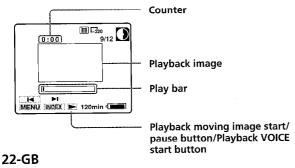
⇒ Recording and playing back images

The indicators during playback

During playback still images (STILL)



During playback moving images (MOVIE)/Still images with sounds (VOICE)

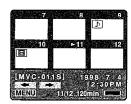


In Index screen mode (INDEX)

+ : To display the preceding 6 images.

: To display the following 6 images.

E : Moving image file (MOVIE) : Still image with sound file (VOICE)



To return to the normal playback screen (Single screen), select an image with the control button, then press it.
The number displayed at the upper right side of the image shows the recording order on the disk. It is different from the file number (p. 31).

Functions you can use for playback of recorded images

Adjusting the volume of the speaker (p. 9)

Adjusting the brightness of the LCD screen (p. 9)

Protecting images – PROTECT (p. 32)

Copying recorded images to another floppy disk - COPY (p. 33)

Deleting images - DELETE (p. 34)

Note

The images recorded by this camera may not be played back correctly by MVC-FD5/FD7/FD51/FD71/FDR1/FDR3.

Battery lite/No. of Indees that can be recorded/played back

STILL mode

| Battery | | Battery life (min.) | No. of images (record/playback) |
|------------|-----------------------|---------------------|------------------------------------|
| NP-F330 | Continuous recording* | 55 (50) | 650 (550) |
| (Supplied) | Continuous playing** | 100 (90) | 1500 (1350) |
| NP-F530 | Continuous recording* | 90 (80) | 1100 (950) |
| | Continuous playing** | 160 (140) | 2400 (2100) |
| NP-F550 | Continuous recording* | 120 (110) | 1500 (1350) |
| | Continuous playing** | 210 (190) | 3100 (2800) |

Approximate battery life and no. of images that can be recorded/played back at a temperature of 77°F (25°C), 640 × 480 image size, in NORMAL recording and STANDARD quality mode. Numbers in parentheses indicate the time when using a normally charged battery. The battery life and no. of images are the same as when using the flash. If you record 1240 × 768 size images, the no. of images that can be recorded is reduced from the above figures by about 10%.

- * Recording at about 5 second intervals
- **Playing back single image at about 4 second intervals

MOVIE mode

| Battery | · · · · · · · · · · · · · · · · · · · | Battery life (min.) | No. of images (record) |
|-----------------------|---------------------------------------|---------------------|---------------------------|
| NP-F330 (Supplied) | Continuous recording | 55 (50) | 35 (30) |
| NP-F530 | Continuous recording | 90 (80) | 55 (50) |
| NP-F550 | Continuous recording | 130 (115) | 85 (75) |

Approximate minutes that can be recorded at a temperature of 77°F (25°C) and 160 x 112 image size. Numbers in parentheses indicate the time when you use a normally charged battery.

- Battery life and no. of images will be decreased if you use the camera in a cold environment or while you repeat turning the power on/off and
- The capacity of a floppy disk is limited. The above figures are a guide when continuously recording/playing back while replacing the floppy disks.

 Battery life and no. of images when using the LCD panel are same as those
- when using the viewfinder.

Interneting only 2005 miles in Wally computer

With this camera, the still image data is compressed in JPEG format and move image data is compressed with MPEG-1 format. These data can be viewed using a personal computer which installed JPEG and MPEG browsing software as Microsoft Internet Explorer 4.0. For further information to use the browsing software, refer to the personal computer instruction manual.

Example: personal computer with Windows 95/98 installed

- 1 Start up personal computer and insert the floppy disk into the disk drive of the personal computer.
- 2 Open " My computer" and double click " - 3.5 inch FD (A:)".
- 3 Double-click the desired data file.

Recommended OS/applications example

Windows 3.1, Windows 95 or later, Windows NT3.51 or later, etc. applications

Microsoft Internet Explorer 4.0, Netscape Navigator etc.

To display the image list, double-click "MAVICA.HTM" of the floppy disk recorded with this camera if your personal computer is installed with a browser such as Microsoft Internet Explorer.

> Recording and playing back images

Notes

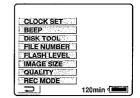
- •To play back an MPEG file, install ActiveMovie Player (DirectShow).
- To play back an MPEG file, install ActiveMovie Player (DirectShow).
 For playing back a file recorded in MOVIE or VOICE mode, first copy it to the hard disk of the personal computer. If you play back the file from a floppy disk, the picture and sound may break off.
 You cannot play back an MPEG file with Windows 3.1.
 Opening non-compressed images recorded in BITMAP mode (p. 28) requires an application program designed to view bitmapped images.
 For Macintosh, you can use the floppy disk recorded with this camera using the PC Exchange with Mac OS system 7.5 or higher. A viewing application for Macintosh is also necessary for viewing images. To play back an MPEG

- for Macintosh is also necessary for viewing images. To play back an MPEG file, install QuickTime 3.0.

Changing the mode settings

1 Select "MENU" with the control button, then press it.

The menu appears on the LCD



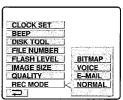
2 Select desired item with the control button, then press it.

When an item is selected, the color of the item changes from blue to yellow.



3 Change the setting with the control button, then press it.

When the setting is finished, the menu screen returns to the screen of step 1.



To cancel changing the mode settings

Press the left side of the control button. The screen returns to the menu screen. To cancel the menu screen, select "" with the control button, then press it.

. Saidhe die mode of each fiem

* is set at the factory.

Items in STILL mode

REC MODE <NORMAL*/□ E-MAIL/ D VOICE/ BMP BITMAP>

- Normally select NORMAL. A JPEG file is recorded in selected image size.
- \bullet Select E-MAIL to record a 320 \times 240 JPEG file besides a 640 \times 480 (or 1024×768) JPEG file. E-mail files are suitable for e-mail transmission, etc. because they contain compressed data.
- •Select VOICE to record a still image and sound together besides a JPEG file.

Press the shutter button down momentarily.

The sound is recorded for 5 seconds.

Hold the shutter button down.

The sound is recorded until you release it. (Maximum 40 seconds)

• Select BITMAP to record a non-compressed image (640 × 480) besides a JPEG file. This is good for recording images in clearer detail.

| Recording mode | lmage size | Recorded file | File name (ex.)** | No. of imag can be rec on a flopp | orded y disk |
|-------------------|---------------|---|----------------------|---|-----------------|
| | | | MVC- | STANDARD | FINE |
| NORMAL | 1024 | JPEG (1024 × 768) | 001L.JPG | | |
| | × 768 | For index screen | 001L.411 | 10 – 16 | 6-8 |
| | 640 | JPEG (640 × 480) | 001S.JPG | | |
| | × | | | 25 - 40 | 15 - 20 |
| | 480 | For index screen | 001S.411 | | |
| E-MAIL | 1024 | JPEG (1024 × 768) | 001L.JPG | | |
| | × | JPEG (320 × 240) | 001E.JPG | 9 –14 | 5-7 |
| | 768 | For index screen | 001L.411 | | |
| | 640 | JPEG (640 × 480) | 001S.JPG | | |
| | × | JPEG (320 × 240) | 001E.JPG | 20 - 35 | 12 - 15 |
| | 480 | For index screen | 001S.411 | | |
| VOICE | 1024 | JPEG (1024 × 768) | 001L.JPG | | |
| | × 768 | MPEG audio with still image (320 × 240) | 001A.MPG | 4 – 9 | 3-6 |
| | | For index screen | 001L.411 | | |
| | 640 | JPEG (640 × 480) | 001S.JPG | | |
| | × 480 | MPEG audio with still image (320 × 240) | 001A.MPG | 5 – 14 | 4-10 |
| | | For index screen | 001S.411 | | |
| BITMAP* | 1024 | JPEG (1024 × 768) | 001L.JPG | | |
| | × 768 | Non-compress (640×480) | 001L.BMP | 1 | 1 |
| | | For index screen | 001L.411 | <u> </u> | |
| | 640 | JPEG (640 × 480) | 001S.JPG | | |
| | × 480 | Non-compress (640×480) | 001S.BMP | 1 | 1 |
| | | For index screen | 001S.411 | | |

The non-compressed image in BITMAP mode is 640×480 size regardless of

IMAGE SIZE in the MENU settings.

**If you record images in FINE quality mode, the last character of file name will be "X" or "F". (ex. MVC-001X.JPG)

Changing the mode settings

Notes

- The file data for index screen is a available only on this camera.
- If you attempt to record 55 images or above, "DISK FULL" appears on the LCD screen and you cannot record the image even when the remaining disk capacity indicator is not emptied.
- 320 × 240 size E-mail files are stored in another folder. The compression ratio is standard and does not depend on the image quality settings.
 A remaining capacity of about 1MB is needed when recording in BITMAP
- A remaining capacity of about 1MB is needed when recording in BITMAP mode. After recording the BITMAP picture, "DISK FULL" appears on the LCD screen.
- \bullet The images recorded in VOICE mode are displayed one-size smaller than the other normal-sized images.
- When the remaining disk capacity indicator flashes, image and sound data cannot be recorded.

QUALITY <FINE/STANDARD*>

- Select FINE when giving priority to image quality.
- Select STANDARD as a standard image quality.

IMAGE SIZE < □640 640 x 480/ □1024 x 768*>

Select a size of JPEG still image.

FLASH LEVEL < HIGH / NORMAL*/ LOW>

- Select HIGH to make the flash level higher than normal.
- Normally select NORMAL.
- Select LOW to make the flash level lower than normal.

Items in MOVIE mode

IMAGE SIZE <□320 320 x 240/□60 160 x 112*>

Select a size of MPEG moving image.

| lmage size | Recorded file | File name (ex.) MVC- | Recording time on a floppy disk* (sec.) |
|------------|--------------------------------------|----------------------------|---|
| 160 × 112 | MPEG (160 × 112) For index screen | 001V.MPG 001V.411 | 60 |
| 320 × 240 | MPEG (320 × 240) For index screen | 001W.MPG 001W.411 | 15 |

^{*} Approximate continuous recording time.

Items for both STILL and MOVIE mode

FILE NUMBER < NORMAL*/SERIES>

- Select NORMAL to reset the numbering of files each time the floppy disk is changed.
- Select SERIES to put numbers to files in sequence even if the floppy disk is changed.

DEMO MODE <STANDBY/ON* or OFF>

Only when you use the AC power adaptor (not supplied), DEMO MODE appears in the menu.

- Select ON to make the demonstration appear. The demonstration will start about 10 minutes after the power is turned on if the camera has not been operated.
- Select OFF to deactivate the demonstration mode.

Note

To stop the demonstration, turn off the camera.

_

Advanced operations

Changing the mode settings

Items in PLAY mode

PROTECT

Select this item to protect a displayed image(s) from being deleted by mistake.

To protect or unprotect an image file, select the desired option from the menu while the image is displayed on the LCD screen.

In Single screen mode

<ON/OFF*>

- Select ON to protect displayed image.
- Select OFF to release protection of the image.

In Index screen mode

<ALL/SELECT>

- Select ALL to protect all images recorded with this camera.
- Select SELECT to protect selected images.
- ① Use the control button to display the red ▶ mark at the image you want to protect.
 The selected image number reverses color. To cancel selection, press the control button again. The image number returns to normal.
- Select "ENTER" with the control button, then press it.
 appears on the upper left side of the image.

To cancel protection of the images in Index screen mode, select the images you want to cancel protection in step ①, then press the control button. The "O—" indicator at the upper left side of the image disappears. When you have finished the cancelling, select "ENTER" with the control button, then press it.

To cancel protecting image, select "CANCEL" with the control button, then press it. The screen returns to the menu screen.

COPY

Select this item to copy a displayed image(s) to another floppy disk. To copy an image(s), select the desired copy option from the menu while the image(s) is displayed on the LCD screen.

In Single screen mode

<OK/CANCEL>

- Select OK to copy displayed image.
- Select CANCEL to cancel copying image.

In Index screen mode

<ALL/SELECT>

- Select ALL to copy all images recorded with this camera.
- Select SELECT to copy selected images.
- ① Use the control button to display the red ▶ mark at the image you want to copy.

The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal

② Select "ENTER" with the control button, then press it.

To cancel copying image, select "CANCEL" with the control button, then press it. The screen returns to the menu.

To copy to another floppy disk

- 1 In Single screen mode, select "OK". Or In Index screen mode, select "ALL", then "OK" or select "SELECT", then carry out steps ① and ② above.
- "CHANGE FLOPPY DISK" will be displayed. **2** Eject the floppy disk.
- "INSERT FLOPPY DISK" will be displayed.
- **3** Insert another floppy disk until you hear it click. "DISK ACCESS" will be displayed.

Items for STILL, MOVIE and PLAY modes

DISK TOOL <FORMAT/DISK COPY>

- Select FORMAT to format the floppy disk loaded in the camera.
- Select DISK COPY to copy all data stored in a floppy disk to another.

To copy all data stored in a floppy disk to another

- 1 Select "DISK COPY", then "OK". "FILE ACCESS" will be displayed.
- 2 When "CHANGE FLOPPY DISK" is displayed, eject the floppy disk.
- 3 When "INSERT FLOPPY DISK" is displayed, insert another disk.
 - "DISK ACCESS" will be displayed.

4 Once copying is completed, the message "COMPLETE" is displayed.

To copy images to another floppy disk, select "CONTINUE" with the control button and repeat the operations in steps 2 through 4 above. To discontinue copying, select "EXIT" with the control button.

Notes

- •To discontinue copying onto a floppy disk halfway (in the middle of steps 1 to 4 above), change PLAY/STILL/MOVIE or turn off the camera.
- Formatting erases all information on the floppy disk, and with copying disk, all information saved on the recipient floppy disk are erased to be replaced by newly written data including the protected image data. Check the contents of the disk before formatting and copying disk.
- Be sure that the battery is fully charged when formatting and copying a floppy disk. Formatting and copying takes about 1 minutes maximum.
- Be sure to use the formatted floppy disk to carry out DISK COPY.

BEEP <ON*/OFF>

- Normally select ON.
- Select OFF to turn the beep/shutter sound off.

CLOCK SET

Select this item to set the date and time. See page 14.

35-GB

Advanced operations

⇒ Changing the mode settings

4 Once copying is completed, the message "COMPLETE" is displayed.

To copy images to another floppy disk, select "CONTINUE" with the control button and repeat the operations in steps 2 through 4 above. To discontinue copying, select "EXIT" with the control button.

Notes

- When you copy to the floppy disk which is a small remaining capacity, "DISK FULL" may appear on the LCD screen.
- •To discontinue copying onto a floppy disk halfway (in the middle of steps from 1 to 4 above), change PLAY/STILL/MOVIE or turn off the camera.

DELETE

Select this item to delete a displayed image(s). To delete an image(s), select the desired delete option from the menu while the image(s) is displayed on the LCD screen.

In Single screen mode

<OK/CANCEL>

- Select OK to delete displayed image.
- Select CANCEL to cancel deleting image.

In Index screen mode

<ALL/SELECT>

- Select ALL to delete all images recorded with this camera.
- Select SELECT to delete selected images.
- ① Use the control button to display the red ▶ mark at the image you want to delete.

The selected image number reverses color. To cancel selection, press the control button again. The image number display returns to normal.

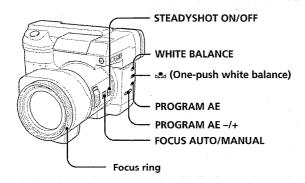
2 Select "ENTER" with the control button, then press it.

To cancel deleting image, select "CANCEL" with the control button, the press it. The screen returns to the menu screen.

Notes

- Once deleted an image cannot be restored. Before deleting, carefully check the images you intend to delete.
- the images you intend to dolcte.
 Even when you select "ALL", you cannot delete the protected image.
- When you select "SELECT", you cannot select a protected image.

Using various functions for recording



Willsunging marketing

- → See page 47
- **1 Set FOCUS AUTO/MANUAL to MANUAL.** Pappears on the LCD screen or in the viewfinder.
- Turn the focus ring to achieve a sharp focus. The position marked " → • • " indicates the area in focus. To reactivate auto focusing (AF), set FOCUS AUTO/MANUAL to AUTO.

Notes

- When recording in relatively dark environment, it is recommended to record after focusing manually.
- When you focus manually in dark environment " ➤ " may not be displayed.

reesing the steroward ting to a

→ See page 48

Set STEADYSHOT to OFF.

"disappears on the LCD screen or in the viewfinder.

To reactivate SteadyShot function, set STEADYSHOT to ON.

36-GB

Adjusting the white balance

→ See page 48

Press WHITE BALANCE repeatedly to select the desired white balance mode.

No indication : Automatic white balance (AWB) mode : One-push white balance mode

Setting the 🗠 (One-push white balance) button

- **1** Press WHITE BALANCE repeatedly to select **№**.
- 2 Attach the supplied white lens cap and point the camera at a subject.
- 3 Press №.

The № indicator starts to flash quickly.

Once the white balance is set, the indicator stops flashing.

Notes

- The № indicator means:
- Slowly flashing: white balance has not been set.

 Quickly flashing: white balance is being adjusted (after you pressed ...).

 Lit steady: white balance has been set.
- If the sa indicator keeps flashing even when you press sa, record in automatic white balance mode.
- When you record under fluorescent lighting, use the automatic white balance mode.
- If the lithium battery is installed, the setting is saved for about one hour if you remove the power source.
- When you record with the flash, use the automatic white balance mode.

AE A

Aperture Priority mode Shutter Priority mode

Twilight mode

To reactivate the automatic adjustment mode, press PROGRAM AE repeatedly until the indicator on the LCD screen or in the viewfinder disappears.

Using the Aperture Priority mode

- 1 Press PROGRAM AE repeatedly to select 🕮 A.
- 2 Press -/+ under PROGRAM AE repeatedly to select the desired aperture value.

You can select from the following 12 value: F1.8, F2, F2.4, F2.8, F3.4, F4.8, F5.6, F6.7, F8, F9.6, F11. For a smaller aperture, select a higher value.

Using the Shutter Priority mode

- 1 Press PROGRAM AE repeatedly to select 🕮 S.
- 2 Press -/+ under PROGRAM AE repeatedly to select the desired shutter speed.

Note that the shutter speed is indicated as, for example, "100" for 1/100 shutter speed.

You can select from the following 13 speeds: 1/60, 1/80, 1/100, 1/125, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000.

For a faster shutter speed, select a larger value indicator.

Note

When the shutter speed is faster than 1/1500, the flash will not work.

38-GB

Changing the lithium battery in the camera

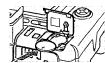
When the lithium battery becomes weak or dead, the "岑" indicator flashes on the LCD screen. In this case, replace the battery with a Sony CR2025 or Duracell DL-2025 lithium battery. Use of any other battery may present a risk of fire or explosion.

When installing the lithium battery, keep the battery pack attached. Otherwise, you will need to reset the date and time retained by the lithium battery.

- Slide the lid of the lithium battery compartment and open it.
- 2 Push the lithium battery once and push it out from the holder.
- 3 Install the lithium battery with the positive (+) side facing out.
- 4 Close the lid.









WARNING

The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions. andi

Precautions

On cleaning

Cleaning the LCD screen

Wipe the screen surface with a LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the camera surface

Clean the camera surface with a soft cloth slightly moistened with water. Do not use any type of solvent such as alcohol or benzene as it may mar the finish of the casing.

Using the camera on a sandy beach or in a dusty place

Do not let sand get into the camera. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired.

Concerning floppy disks

To protect data recorded on floppy disk, note the following:

- Avoid storing floppy disks near magnets or magnetic fields such as those of speakers and televisions, permanent erasure of disk data may result.
- Avoid storing floppy disks in areas subject to direct sunlight or sources of high temperature, such as a heating device. Floppy disk warping or damage may result, rendering the disk useless.
- Avoid contact with the disk's surface by opening the disk shutter plate. If the disk's surface becomes blemished, data may be rendered unreadable.
- Avoid getting liquids on the floppy disk.
- Be sure to use a floppy disk case to ensure protection of important data.
- Use a 2HD or 2DD type disk head cleaner when cleaning the disk drive.
- Even when you use a 3.5 inch 2HD floppy disk, image data may not be recorded and/or displayed depending on the using environment. In this case, use other brand disks.

Operational temperature recommendations

This camera's operational temperature is between 32°F to +104°F (0°C to +40°C). Do not use this camera in extreme climates outside the operational temperature range.

Moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. Should this occur, the camera will not operate properly. In this case, remove the floppy disk, turn off the camera, and wait about an hour for the moisture to evaporate.

To prevent moisture condensation

When bringing the camera from a cold place to a warm place, put the camera in a plastic bag and allow it to adapt to room conditions over a period of time.

- ① Be sure to tightly seal the plastic bag containing the camera.
- ② Remove the bag when the air temperature inside it has reached the temperature surrounding it (about 1 hour).

Notes on lithium battery

- Keep the lithium battery out of the reach of children.
 Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Do not hold the battery with metallic tweezers, otherwise a shortcircuit may occur.
- Note that the lithium battery has a positive (+) and a negative (-) terminal. Be sure to install the lithium battery so that symbols on the battery match the symbols on the camera.

40-GB

dditional informatic

Troubleshooting

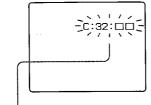
Should any problem persist after you have made those checks, consult your nearest Sony dealer. If "C: $\Box\Box$: $\Box\Box$ " appears on the LCD screen, the self-diagnosis function has worked. See page 44.

| Symptom | Cause and/or Solution | |
|--|--|--|
| The camera does not work. | The camera does not operate when using a battery pack that is not an "InfoLITHIUM" battery pack. Use an "InfoLITHIUM" battery pack. (p. 14) The floppy disk is not installed properly. Remove the disk and reinstall it. (p. 8) | |
| You cannot record images. | PLAY/STILL/MOVIE is not set to STILL or MOVIE. → Set it to STILL or MOVIE. (p. 17, 18) No floppy disk has been installed. → Install a formatted floppy disk. The tab on the disk is set to the non-recording position. → Set it to the recording position. (p. 8) | |
| The picture is noisy. | The camera is placed near a TV or other equipment that uses strong magnets. → Place the camera away from the TV, etc. | |
| The picture is too dark. | You are shooting a subject with the light source behind the subject or light is insufficient. → Adjust brightness of the image. (p. 11) The LCD screen adjustment is too dark. → Adjust brightness. (p. 9) | |
| The flash does not work. | • The no flash mode is set. → Set it to the Auto or Forced-flash mode. (p. 11) • The flash is not lifted up. → Slide OPEN (FLASH). (p. 9) | |
| Incorrect date and time are recorded. | The date and time are not set. → Set the date and time. (p. 14) | |
| Vertical streaks appear when shooting a very bright subject. | The smear phenomenon. → The camera is not malfunctioning. | |

| Symptom | Cause and/or Solution |
|---|---|
| The battery life deteriorates too fast. | The ambient temperature is too low. Charging of the battery pack is not enough. → Charge the battery pack fully. The battery pack has served its time. → Replace the battery pack with a new one. |
| You cannot play back the images on the LCD screen. | PLAY/STILL/MOVIE is not set to PLAY. → Set it to PLAY. (p. 21) The battery is dead. → Use a charged battery pack. |
| The picture and sound break off when you play back the images using a personal computer. | The image file is on a floppy disk. → Copy to the hard disk of a personal computer. Then play back the image from the hard disk. (p. 26) |
| You cannot play back the image using a personal computer. | Contact your personal computer maker or software maker. |
| You cannot delete an image. | The image is protected. → Cancel the protection of the image. (p. 32) |
| The power turns off automatically. | If you leave the camera inactive in STILL/ MOVIE mode for about 3 minutes while the power is on, it turns off automatically to prevent wearing down the battery. → Turn the power on. |

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with fivedigits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The fivedigit display informs you of the camera's current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



Self-diagnosis display

• C: 🗆 🗆 : 🗆 🗆

You can reverse the camera malfunction yourself.

• E: 🗆 🗆 : 🗆 🗆

Contact your Sony dealer or local authorized Sony service facility.

| First three digits | Cause and/or Corrective Action | |
|--------------------|--|--|
| C:32:□□ | Trouble is with the disk drive. | |
| | →Turn the power off and on again. | |
| C:13:□□ | An unformatted disk is installed. | |
| | \rightarrow Format the disk. (p. 35) | |
| | An unusable disk with the camera is | |
| | installed. | |
| | \rightarrow Change the disk. (p. 8) | |
| E:91:□□ | A camera malfunction which you can not | |
| E:61:□□ | reverse has occurred. | |
| • | →Contact your Sony dealer or local | |
| | authorized Sony service facility and | |
| | inform them of the five digits. | |
| | (example: E:61:10) | |

Specifications

System

Lens

Image device 1/3-inch CCD

f = 5.2 - 72.8 mm (37 – 518 mm, when converted

to the equivalent of a 35 mm still camera)

F1.8 - 3.2

Exposure control Automatic exposure

Automatic, Outdoor, Indoor, One-push white White balance

Data compression Movie: MPEG-1 Standard format

Still: JPEG

Audio with still image : MPEG audio (mono) Memory

Floppy disk:

3.5 inch 2HD MS-DOS format (1.44 MB) Flash

Recording distance limitations:

15/8-81/3ft. (0.5-2.5 m)

LCD screen

Screen size 2.5 inch LCD panel Total dot number 84260 dots

General

Dimensions

Application Sony battery pack NP-F330/F530/F550

7.2 V (battery pack) Power requirements Power requirements
Power consumption (During shooting)
3.9 W (When using the LCD panel)

3.6 W (When using the viewfinder) 32°F to +104°F (0°C to +40°C) Operation temperature Storage temperature

-4°F to 140°F (-20°C to 60°C) Approx. $55/8 \times 41/8 \times 61/2$ in.

Approx. 33/0×41/0×04/2... (139.8×103×162 mm) (w/h/d) Approx. 2 lb. 1 oz. (950 g) (including battery pack NP-F330, lithium battery CR2025, floppy disk, Mass

shoulder strap and lens cap) Electret condenser microphone

Microphone Dynamic Speaker Speaker

Supplied accessories See page 7.

Design and specifications are subject to change without notice.

Warning messages

Various messages appear on the LCD screen. Check them with the following list.

| Message | Meaning | |
|--------------|--|--|
| DRIVE ERROR | Trouble is with the disk drive. | |
| NO DISK | No disk has been inserted. | |
| DISK ERROR | Trouble is with the disk or the floppy disk loaded is not MS-DOS formatted (512 bytes x 18 sectors). | |
| DISK PROTECT | The tab on the disk is set to the non-recording position. | |
| DISK FULL | The disk is full. | |
| NO FILE | No image has been recorded on the disk. | |
| FILE ERROR | Trouble has occurred during playback. | |
| FILE PROTECT | The image is protected. | |
| <u>c</u> | The battery is weak. | |
| <u>r</u> | The lithium battery is weak or is not installed. | |

Function guide

Spot light-metering mode - p. 11

This camera has an automatic exposure (AE) function that automatically decides what the best exposure is. Complete photometry uses light meter data for the entire picture to calculate and determine exposure value. Use the spot light-metering mode to take a picture with the appropriate exposure for just the point you want to focus on.

LCD screen or viewfinder



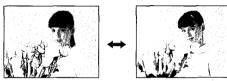
Spot light-metering range

When do you use it?

- When there is backlight.
- When there is strong contrast between subject and background such as with a subject that is on stage and lighted by a spotlight.

Manual focusing - p. 36

This camera has an automatic focusing (AF: autofocus) function. Autofocus requires adequate light and the right kind of contrast between light and dark. When it is hard to use autofocus, use manual focus.



When do you use it?

- When focus cannot be determined because the subject is on the opposite side of a window that has water drops on it.
- When you are using a tripod and want to fix focus on a stationary object.
- When contrast between subject and background is low.
- When you want to change the position of focus.

Additional information

46-GB

SteadyShot function - p. 36

The SteadyShot function detects shaking in the camera and compensates for it. This is a very handy function when pictures are being taken with the camera hand-held. When the camera is mounted on a tripod and there is no concern about the camera vibrating from shaky hands, release the SteadyShot function to get a more natural picture.

White balance - p. 37

White can look like some other color depending on what the light source is. Clothes that are white under natural sunlight may look yellow under incandescent bulbs and blue under fluorescent lamps. The automatic white balance (AWB) mode adjusts for this difference in light source so that a white object will always look the same. The white balance adjustment allows white colors to look more natural.

When do you use it? Examples of picture-taking conditions White balance indicator

| Transfer of breeze annual annual | |
|---|----------|
| If the subject or background is all the same color. | |
| At night-time with neon or fireworks in the picture At sunset or sundown Under daytime-fluorescent light | * |
| If the lighting conditions, like those at a party, are changing. If the picture is being taken in a studio lit by TV lighting. If the subject is being lit by sodium- or mercury-vapor lamps. | ☆ |

One-push white balance

This function is for manually adjusting white balance to suit lighting conditions and then keeping the adjustment set. As long as there are no changes in lighting conditions, the subject can be taken in its natural color and the surrounding conditions will not affect the subject.

48-GB

Program AE - p. 38

AE A Aperture priority mode

This function allows depth of field to be set to any level desired. The camera's shutter speed is automatically set to optimum in line with the assigned aperture value.







When the aperture is open (lowering the aperture value), the focus range is narrow (shallow depth of field for subject). This diffuses the background and makes the subject stand out.

When the aperture is closed, the focus range is wide (deep depth of field for subject). The picture shows both the person and the background in similar clarity.

What is depth of field?

When the focus is on the subject, things to front and back of the subject look blurred, and the range at which the focus is actually seen is called the depth of field.

When do you use it?

- When you are in a dark place and you want to have a bright picture (open).
- When you want to make the subject stand out against an unclear background (open).
- When you want both the subject and the background to stand out clearly (closed).

AE S Shutter speed priority mode

This allows the shutter speed to be set in accordance with picture taking conditions or brightness. The camera will automatically adjust to the best aperture value in line with the set shutter speed.



When do you use it?

- When you want to take a picture of a fast-moving object and you don't want the object to blur (fast shutter speed).
- When you want to take a picture of a dark object and you want it to be bright (slow shutter speed).
- When you want to show the flow of motion of a moving object (slow shutter speed).

→ Twilight mode

This suppresses the blurring of colors of a subject that you want to take in a dark place but want it to be bright and not lose the dark atmosphere of the surroundings. Automatically adjusts the aperture so that the brightness is maintained at the right level and automatically keeps the shutter speed.



When do you use it?

Taking pictures of night-time scenes, neon lights, fireworks, etc.

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